



Frontal view of a Spitfire F.Mk.XIV C shows off the "tear-drop" hood/"bubble" canopy.

(Photo: IWM, CH.13814)

Supermarine Spitfire (Griffons) Mks.XIV and XVIII

by Len Bachelor

THE combination of the Spitfire and the Rolls-Royce Griffon aero-engine had already proved successful and operationally acceptable with the introduction of the Spitfire Mk.XII which used a Mk.V airframe for its development.

Meanwhile, a major redesign of the Spitfire was planned. This would use the Griffon engine and exploit the Mk.VIII airframe with a new mainplane. In due course this redesign was to appear as the Type 394 Mk.XVIII.

However, long before the new fighter appeared there was an operational demand in 1943, for an improved Spitfire capable of greater performance at higher altitudes.

To meet this demand, yet another interim type was evolved by the mating of a Mk.VIII airframe and the Griffon engine. The result was the Type 379 Spitfire Mk.XIV.

As had been the case with the Spitfire Mk.IX, built as a "stand in" for, but in larger numbers than, the Mk.VIII, so the Mk.XIV was built in greater numbers than the Mk.XVIII.

PRE-PRODUCTION SPITFIRE XIVs

Six Mk.VIII airframes, serialled JF316-321 were taken from the production line and used as conversion and development aircraft.

JF316. Converted at the Hursley Park works from whence it went to Rolls-Royce's aerodrome at Hucknall (Nottinghamshire) in April 1943 for propeller tests at low altitude with the Griffon 65 and 67 engines. Following these tests, it was returned to Vickers at Eastleigh near Southampton (Hampshire) in April 1944, and finally on to de Havilland Propellers Ltd. In 1948, JF316 finished its useful role at Sutton-on-Hull (E. Yorkshire) where it was burned in Royal Air Force fire-fighting tests.

JF317. Powered by a Griffon RG5SM (a pre-production development Griffon with a slightly lower supercharger gear ratio than the subsequent production Griffon 65); modified fin and rudder; Mk.VIII wing, without extended wingtips (and small-span ailerons as on the Mk.VII); and with "balloon"-type* cockpit hood, JF317 was evaluated by A&AEE—the Aeroplane & Armament Experimental Establishment—at Boscombe Down, near Salisbury (Wiltshire). The take-off weight for test purposes was 8,375 pounds; and the following observations are extracted from the official A&AEE report (reproduced by permission of the Controller of

*Not to be confused with the latterly-adopted rear-view "tear-drop" hood which was also known as the 360°-vision "bubble" canopy.—Editor

When taxiing with an open hood, stated the A&AEE report, the pilot was unable to put his head out of the cockpit because of a considerable amount of heat and exhaust fumes being blown back by the propeller slipstream.

Take-off length was short but there was a tendency to swing to starboard as the throttle was opened. However, this swing to the right could be controlled without difficulty by applying rudder and full left trim.

For the Mk.XIV, the stalling speeds were similar to those of other Spitfire marks. Calibrated indicated airspeed (IAS) measurements amounted to 88 miles per hour IAS with flaps and main undercarriage "up" (retracted) and 75 mph IAS with flaps and main gear in the "down" position.

If controls were applied quickly in an aileron turn, a yawing oscillation occurred.

The rudder was "heavy" and very difficult to hold in a fixed position at high speed.

With an "engine on" approach for landing, the aircraft could be brought in at around 85 mph, IAS.

In September 1943, JF317 was "loaned" to Rolls-Royce for tests with the Griffon 65; and, in June 1944, to Rotol Ltd. for their propeller tests.

JF318. Also flight tested at A&AEE between May 20 and September 25, 1943, after conversion by Air Service Training Ltd. at Hamble in Hampshire.

After 104 hours flying and 101 flights, the Griffon RG5SM engine failed. A replacement engine was fitted which also failed after 47 hours flight time and 54 flights. On the last flight, on September 25, the pilot baled-out successfully but the aircraft was "written-off" after making landfall near Amesbury in Wiltshire. The accident investigation revealed that a connecting-rod had fractured and broken through the crankcase on the port side; and that the main big end bearing had overheated.

During the period of trials, which included stability and carbon monoxide contamination tests, JF318 was flown at take-off weights of 8,160 lb., 8,200 lb. and 8,270 lb.

For take-off at maximum power with 2,750 revolutions per minute, a boost of 12 pounds per square inch was required. This increased to 15 lb./sq.in. for combat level flight and climb. In flight, if the throttle was opened too rapidly, the engine would "splutter"—a rather disconcerting experience to any pilot unaware of this characteristic.

JF319. The prototype Mk.XIV with Griffon RG5SM engine. Also went to A&AEE for flight tests. Between which included climb and level performance, position error, oil cooling and radiator suitability trials between September and November 1943. A "universal" wing with gun ports and muzzles sealed; "balloon" hood; modified fin and rudder (similar to JF317); and a highly polished finish.

For the performance trials, JF319 was flown at a take-off weight of 8,400 lb. and +18 lb./sq.in. boost—in combat maximum boost was only permitted for periods of five minutes. The best climbing speed was 175 mph up to 22,000 feet. But this decreased by 3 mph per 1,000 ft. thereafter. Time taken to climb to 10,000 feet was 2.3 minutes; 20,000 ft. in 5.1 min.; 30,000 ft. in 8.35 min. and to 40,000 ft. in 15.05 min. Absolute ceiling was 44,600 feet.

Taxiing was found to be similar to that experienced

with JF317. Short bursts of power were found to be more preferable than a steady flow of low power. This was due to the fact that the engine did not open up smoothly.

In the air, the swing to the right following full throttle setting was easily held by applying approximately three-quarters of the available rudder deflection.

To recover from a stall (flaps and undercarriage in the "up" position) presented no problem. At the stall, the nose dropped straight through 30° and recovery was complete with the resultant increase in speed.

Recovery from a dive was also trouble-free. It was quick and required only light stick force. JF319 was eventually lost in a flying accident following its development flying at A&AEE, Boscombe Down.

JF320 and JF321 were both used for propeller testing by Rotol; JF321 being fitted with a contra-rotating propeller.

EXAMINING THE GRIFFON

At this stage it is convenient to look in greater detail at the development of the Griffon aero-engine, which was originally conceived as a high-power, low-altitude unit to meet the requirement of the British Royal Navy.

Prior to the appearance of the definitive Griffon, there was the "Griffonized" Merlin engine which incorporated a Griffon crankcase but retained the Merlin cylinders, wheelcase, supercharger and reduction gear. This modified engine was first flight-tested in a Fairey Battle (N2234), October 16, 1939, from Hucknall aerodrome, the Rolls-Royce Experimental Flight Test Establishment in Nottinghamshire.

The Griffon proper (Mark IIA)—soon to be replaced by the Griffon IIB—had now been produced and was flight tested in a Hawker Henley (L3414) on March 13, 1941, also from Hucknall.

The principal feature of the Griffon was that the magneto and camshafts were driven from the front end of the crankshaft instead of the rear as on the Merlin. Drive for the supercharger and components at the rear of the engine was also taken from the front of the crankshaft; being effected by a long spring drive-shaft carried in bearings in the lower half of the crankcase. Considerable cleaning-up in design was also accomplished by the elimination of all possible external pipework; using instead internal passages in the castings. Thus, maintenance and overhaul requirements were considerably simplified.

The bore and stroke of the engine were 6.0 and 6.6 inches respectively giving a capacity of 36.75 litres. The two-piece construction cylinders were arranged, like the Merlin, in 60° vee formation with six cylinders per bank. Further particulars applicable to the Mk.IIA and IIB are as follows. Supercharger gear ratios of 8.25 (MS—moderately supercharged) and 11.22 (FS—fully supercharged). Supercharger rotor diameter 9.75 inches. Maximum power output was 1,735 brake horsepower at 16,000 feet.

The first production Griffon IIB was delivered on March 31, 1942, this version being installed in the Royal Navy's Fairey Firefly—a carrierborne, two-seat reconnaissance fighter. Development and production of the single-stage, two-speed marks continued with the RG2SM (Griffon Mk.III and IV for the RAF's Spitfire XII) and the RG14SM (Mk.VI for the RN's Seafire XV and XVII).



Serving as the Spitfire Mk. XIV conversion prototype was this Mark VIII (RAF serial JF319) which displays the modified fin and rudder of the interim stage. (Photo: Imperial War Museum, ref. MH.5269)

Early production Spitfire F.Mk. XIV C (RB151). Ground clearance for the big five-blade Rotol propeller is noteworthy. (Photo: IWM, ATP.12462c)

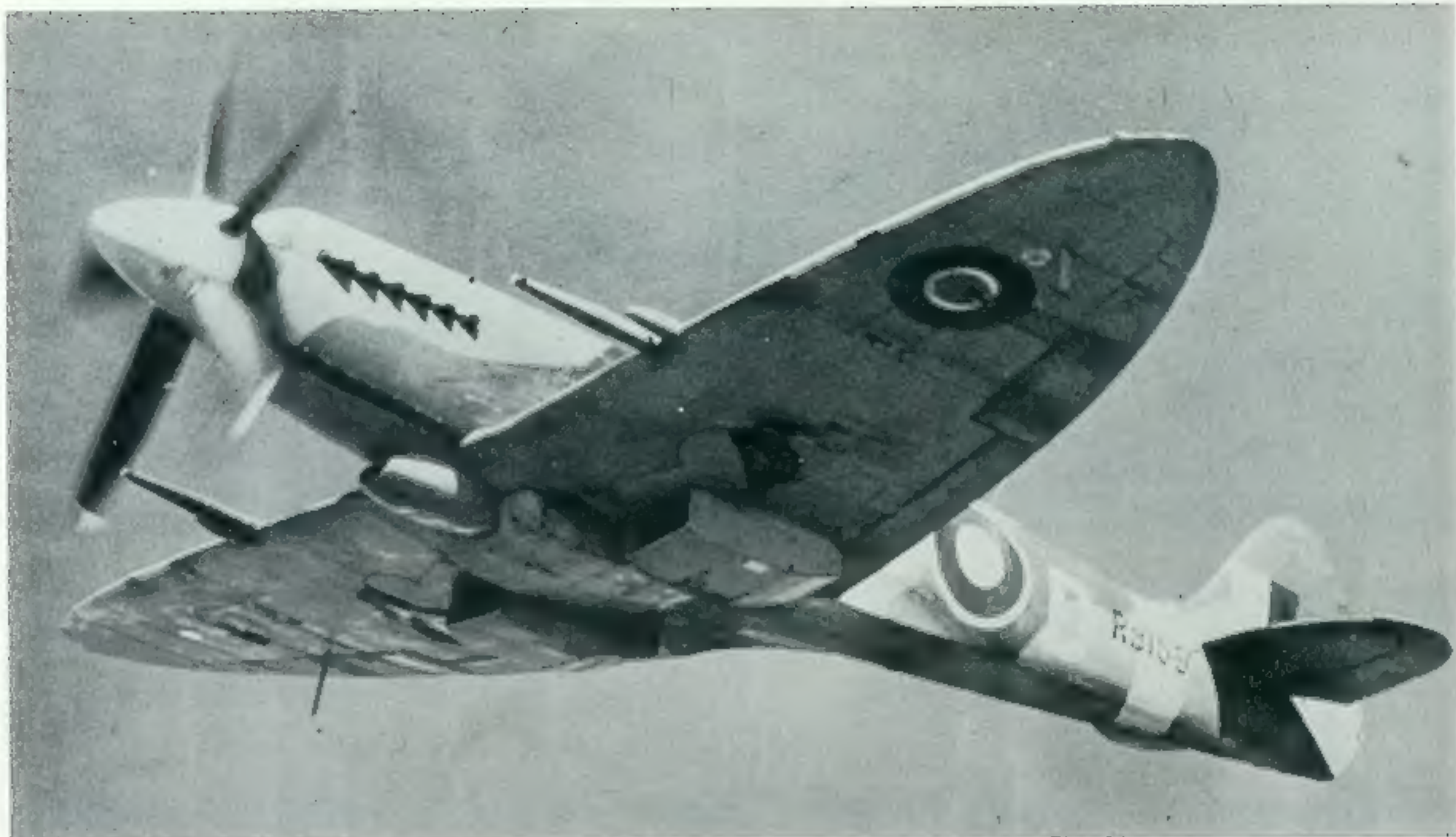
The first production example of the Spitfire F.Mk. XIV C (RB140). (Photo: Real Photographs of Liverpool)

It was inevitable that the Griffon would follow suit with the Merlin and be equipped with a two-stage supercharger, and, in line with Merlin policy was given a mark number range beginning with the Mark 60. The use of the two-stage supercharger permitted the higher compression ratios necessary to obtain high-altitude flight. However, an intercooler was necessary because the fuel vapour (charge) leaving the supercharger was of such a critically high temperature.

The charge cooling was carried out after the style of the Merlin intercooled series; but differed slightly in that the intercooler—atop of the supercharger between the cylinder bank vee—was set at an angle to the centre-line of the engine. This method of mounting eliminated the sharp angle through which the mixture had to turn in passing from the volute to the intercooler. It was reasonable to suppose that in negotiating this sharp angle a loss in boost pressure, though small, would be present. Thus, by mounting it to meet the charge flow, this loss—if not entirely eliminated—would be reduced.



The Griffon intercooled series was only slightly greater in size than the Merlin counterparts. A comparison of overall dimensions shows that the Griffon Mark 65 (at an overall length of 81 inches) was only 3 inches longer than the equivalent Merlin, the Mk.66. Respective overall heights were Griffon 45 inches (Merlin 43.6 inches) and overall width 29.5 (29.8) inches. Frontal area was 7.9 sq.ft. bare and 11 sq.ft. when installed in the Spitfire XIV. Dry weight was 2,090 lb. Amazingly, despite the similarity in size, the Griffon had a swept volume (2,239 cu.in.) which was 35.9% larger than that of the Merlin.



Production Spitfire F.Mk.XIV C (RB159), coded DW-D of No. 610 Squadron, Auxiliary Air Force, RAF, shows off the two big radiators and long-range drop tank. (Photo: IWM, CH.13811)

On the continent of Europe following the invasion of June 1944. A Spitfire F.Mk.XIV E (RM792) with black propeller spinner but lacking normal RAF Fighter Command rear-fuselage "Sky"-coloured band. Suffix "C" and "E" wing cannon lengths differed. (Photo: via author's collection)

Early production Spitfire F.Mk.XIV E (RM784) in March 1945, with 360°-vision canopy transparency and cut-back, shallower rear fuselage. (Photo: IWM, MH.5272)

The two-stage Griffons were the same mechanically as the Griffon IIB except that the supercharger drive from the front end was dispensed with and the drive taken from the rear end of the crankshaft through the medium of a spring drive as in the normal Merlin practice. Instead of the usual type of S.U. carburettor, a Bendix-Stromberg fuel injection unit was fitted. The remainder of the engine assembly was similar to the Griffon II.

The first bench run of the two-stage Griffon took place on June 27, 1942; with deliveries beginning on December 12, 1942.

TEST MK.XIVs

RB141. The first "true" Mk.XIV to be tested was actually the second production aircraft (RB141). During the period of November 14-20, 1943, handling trials were carried out with RB141 when the results were compared with those obtained from similar trials with the prototype aircraft JF319. Flown at a take-off weight of

8,490 lb.—and with a 90 Imperial gallon drop-tank for part of the time—no great differences were found in the handling qualities. The revised fin and rudder decreased the change required in directional trim with speed. Fin and rudder area was 7.40 sq.ft.

RB144. The fifth production model (RB144) was flown between November 25, 1943, and March 1, 1944, for a total of 150 hours and 121 flights; with very little trouble being experienced from the Griffon 65 installed. Circular exhaust stubs were fitted to this aircraft for the last 45 hours of the trials. Starting the Griffon engine could only be achieved by loading the Coffman starter with 4-bore paper cartridges (purple in colour). Take-off weight was 8,445 lb. except for a few hours when this was increased to 8,845 lb. as a result of fitting the aircraft with a 45 Imp. gal. drop tank. Attempts were made to fit the Mk.XIV with a 30-gal. drop-tank, but were unsuccessful because—without modification—the forward cut-away fouled the air intake scoop.

Speeds of between 450 and 470 mph (limiting speed),

were reached during diving tests when the aircraft was subjected to 61 sustained dives. Oil consumption was low—an average of 2.8 pints per hour during the tests.

When ground running the engine, it was found necessary to lash the aircraft down firmly, especially at the tail. Manual holding-down was not sufficient as the lift at the tail during maximum run-up was approximately 650 lb.

One unsatisfactory feature became apparent from the initial tests with the 45-gal. drop-tank—it was discovered that the fuel pressure warning light came on shortly *after* the engine cut. This could be a disconcerting experience, particularly if the aircraft were flying at low altitude at the time. The fuel pressure warning light came on when pressure dropped to 10 lb./sq.in. The release lever was situated on the starboard side of the cockpit.

Two years later RB144 was fitted with a contra-rotating propeller by the de Havilland company. The powerplant installed was then a Griffon 85.

RB146. Gun heating trials were carried out on RB146 and found to be unsatisfactory. The position was improved not so much by additional protection but by the introduction of the "E" ("universal") wing. This resulted in the heat being fed into two bays, whereas on RB146, with the "C" wing armament, there were six bays. This aircraft was frequently flown whilst on gun heating, spinning and fuel consumption trials from Boscombe Down by the outstanding Polish fighter pilot, Jan. Zurakowski, who later became test pilot for Martin-Baker Aircraft Co. Ltd. and Gloster Aircraft Co. Ltd.

RM766. This Griffon-Spitfire was used in connection with the later gun heating trials. Other Griffon-Spitfires which were subjected to tests included the following aircraft.

MV247. FR.Mk.XIV. Trials during March and April, 1945, which included the fitting of a rear-view "tear-drop" cockpit canopy. Prefix "FR" indicated camera installation; "Fighter Reconnaissance".

RM784. Spinning, manoeuvrability and handling tests at A&AEE, Boscombe Down, in March, 1945. Frequently flown by Jan. Zurakowski.

RM929. Tests to determine efficiency of chlorobromomethane and dry powder carried out by Fire Research Board. Subsequently allocated maintenance serial 6849M.

NH706. Tests by Rolls-Royce with Griffon 65, between April 1944 and July 1947.

RM676. Tested at A&AEE in May 1945. Nature of tests not known.

RM650 and RM689. Used by AFDU—Air Fighting Development Unit—in late 1944 for testing the efficiency of a curved windscreen. Results did not show sufficient improvement of vision to justify introduction of new windshield. RM689 went on to Rolls-Royce in March 1949, for liaison work and later became civil-registered as G-ALGT. In 1968 it participated in the film *Battle of Britain*, for which it had wing tips fitted. After "demobilization", it retained a camouflage finish and subsequently became "RM619" coded "AP-D".

RM790, NH707 and TP240 were all engaged on the testing of the Mk.IX rocket projectile installation.

TX980. Tested by Rolls-Royce with a special three-speed supercharger during period September 1945–October 1948.

TZ138. Another surviving example, this FR.Mk.XIV E shipped to Canada for winterization trials in the winter

months of 1945–46. New trials were carried out from Fort Nelson, British Columbia, during the period January 15–27, 1947, and finally from Churchill, Manitoba, between February 17–28, 1948, when the tests which had continued for 95 days were concluded. During this period the aircraft was fitted with modified (de Havilland D.H.82C) Tiger Moth skis following several incidents when its wheels broke through the snow surface. However, operations of single-motor fighters on skis were not recommended and the aircraft was then disposed of; being sold to Imperial Oil Company of Edmonton, Alberta. It was issued with a civil licence and became the Canadian-registered CF-GMZ. In this guise, CF-GMZ participated in the National Air Races at Cleveland, Ohio, with racing No. "80"—and took third place in the Tinnerman Trophy Race in 1949. Between 1949 and 1960 the history of TZ138 is obscure but it was apparently at one time destined for Cuba, but following damage en route, its delivery was abandoned.

SPITFIRE XIVs IN PRODUCTION

Only the first batch of aircraft produced were fitted with the "C" wing armament. The remaining aircraft were fitted with the "E" ("universal") wing armament. The "E" wing could be identified by the 20-mm. cannon being situated in the outer bay with a faired stub plugging the inner bay.

The first production Mk.XIV aircraft—delivered to No. 39 Maintenance Unit in October, 1943—were RB142 and RB143, the former being the first to enter squadron service.

The Mk.XIV assemblies produced by the Vickers-Armstrongs (Supermarine) factories at Aldermaston, Chattis Hill, Keevil, Southampton and Winchester, appeared in two versions; the F.Mk.XIV—fighter version and the FR.Mk.XIV for fighter-reconnaissance work at low altitude. The FR version carried one F.24 camera in the fuselage behind the cockpit on the port side for oblique photography. Normal armament was retained.

The majority of Mk.XIVs appeared with the standard "balloon"-type cockpit hood. Later the rear-view hood—the 360°-vision "bubble" canopy—was introduced on to the production line.

For low-altitude work, wingtips were removed or "clipped". This was applicable to both versions; although, because of the nature of the role, all FR. variants had "clipped" wings. It was *not*, therefore, a means for establishing the identity of an individual F./FR.Mk.XIV.

External armament of the F.Mk.XIV C consisted of one 500-lb. bomb carried beneath the fuselage; while on the F.Mk.XIV E, this was augmented by one 250-lb. bomb under each wing.

The fuselage and wing bombs were released by operation of a push button situated on the top of the throttle control lever. A manual release handle was available in the event of electrical failure.

Pilots were extremely eager to fly the "new" Spitfire and were enthused by its superior performance. Inevitably, some pilots felt that this was no longer a "Spitfire" with its bigger nose, redesigned fin and rudder and larger (two) underwing radiators. A total of 957 of both variants was produced.

THE Mk.XIV IN ACTION—EUROPE

The privilege of receiving the first Griffon-Spitfires in

service, went to No. 610 (County of Chester) Squadron, R.A.F., who picked up eight of the new aircraft on arrival at Exeter Airport, South Devon, on January 6, 1944. These aircraft had previously been delivered from Nos. 33 and 39 Maintenance Units.

Within two days, Flight Sergeant White was airborne (in RB154) for just under two hours in company with a Spitfire Mk.V, the Squadron's outgoing equipment.

Familiarization with the new Griffon-Spits. by pilots through local flying interspersed with convoy patrols was the pattern throughout February—at the end of which No. 610 had 19 Mk.XIVs on strength; a full quota.

A weakness in the rear fuselage near the tail section became apparent following a test flight to 40,000 feet by RB150 on February 16. An inspection of all Mk.XIVs was ordered; and RB140 was also found to be in similar condition. The aircraft were repaired and suitably strengthened by Air Service Training Ltd. at Exeter.

No. 610 Squadron suffered its first accident with a Mk.XIV when RB156 forced landed at Harrowbeer near Yelverton (Somerset), on February 2, through excessive vibration caused by plug trouble.

Teething troubles were relatively few and seem to have created little difficulty. The Mark XIV was favourably acclaimed, particularly by the pilots who thought it to be a "marvellous plane". Ground crews had some misgivings—because of the inaccessibility of some components when servicing—but these were not of a serious nature.

Tyre changes were frequent due to the combination of the increased weight of the aircraft (up to 8,500 lb.) and higher landing speeds. Tyres had a life covering only eight to 12 landings.

The next R.A.F. Fighter Command unit to receive the Mk.XIV was No. 91 Squadron, picking up six aircraft on arrival at Castle Camps, near Haverhill, Suffolk, on February 29, 1944. However, a move north to Scotland was soon made—to Drem, near Edinburgh—by which time, March 8, there were 13 Mk.XIVs on strength.

No. 91 Squadron got off to a bad start with its first operational mission which took place on the 12th. RB172 (Flight Sergeants C. Sayer (RB172) and B. Ritchie (RB188)) were "scrambled" in order to assist an incoming Consolidated B-24 Liberator. No help was in fact required; but, because of deteriorating weather, RB188 crashed at 19:00 hours 20 miles south of Turnhouse with the loss of the pilot. Dusk flying was carried out on March 17, and everyone was pleasantly surprised to find how nice the Mk.XIV was to fly at night. No trouble being experienced from exhaust flames.

On April 10, 1944, No. 322 (Dutch) Squadron took possession of 20 Mk.XIVs on arriving at Acklington and soon found the fuel consumption to be higher than previously experienced. To quote one pilot: "You can see it go down the gauge."

A move to West Malling, near Maidstone (Kent), was made by No. 91 Squadron on April 23—the unit declaring itself to be operational by the following day.

The first No. 91 sortie over enemy territory with Mk.XIVs was permitted on April 28 when RB182 and NH697 were "scrambled" to intercept an aircraft over Rouen—this turned out to be a USAAF Lockheed P-38 Lightning.

The next day, Flying Officer J. Collis (RB187) was lost when his aircraft failed to return from a patrol over the Thames Estuary.

In its first month of operations, No. 91 Squadron recorded 132 hours 45 minutes (day) and 14 hours 55 minutes (night) of operational flying.

On May 7, No. 322 (Dutch) Squadron, now based at Hartford Bridge (later Blackbushe) in Hampshire, received and entertained a royal visitor. During his stay His Royal Highness Prince Bernhard of the Netherlands flew "C-for-Charlie" for 15 minutes.

During May, No. 610 Squadron was engaged in offensive "sweeps" and *Rodeos** over Occupied Europe. While four aircraft of this squadron were carrying out a shipping reconnaissance on the 22nd, the Flight Leader, Flight Lieutenant H. Percy (RB162), was hit by anti-aircraft fire off Plemont Point, Guernsey. Climbing to 1,500 ft., Percy baled-out but, unfortunately, his parachute failed to open.

This squadron lost another aircraft the following day when RB178 crashed on landing returning from a *Ramrod*.* The pilot, Flight Lieutenant West, was fatally injured.

The first Spitfire Mk.XIV known to be lost over enemy-held territory, also belonged to No. 610. Piloted by Flying Officer Colgrave (RB175), it was hit by fire from a *flak* wagon while on a *Rhubarb**. The aircraft broke up following an attempt by the pilot to make a forced landing eight miles s.s.e. of Lamballe. Later four aircraft were sent out to destroy the wreckage, but these were driven off by a heavy anti-aircraft barrage.

To combat the V.1 Flying Bomb ("divers" as they were also called) menace, No. 91 Squadron began "anti-diver" patrols on April 16 and immediately had one success when Flight Lieutenant H. Moffett (RM617) destroyed one over Kenley (Surrey) after chasing it for 20 miles.

On June 18, No. 91 Squadron flew 53 sorties against the new German revenge weapon. On this day No. 91 Squadron was joined by No. 610 Squadron which had been moved to West Malling (Kent) to undertake similar duties. In fact, this became its sole activity until the end of July, by which time it had destroyed 43 "divers" and moved from West Malling to Westhampnett near Chichester, and to Friston near Eastbourne (Sussex). No. 610 Squadron had opened its score on June 20 when it destroyed four "divers" after 34 sorties.

After running out of ammunition on June 23, Flying Officer K. Collis (NH698) tipped over a "diver", causing it to go out of control. This is believed to have been the first such Mk.XIV "tipping", although it became a not uncommon occurrence in the following weeks. It was not, however, without its dangers.

On June 29, No. 91 flew 63 sorties and destroyed 11 "divers", two falling to Flight Lieutenant Nash (RM615).

At the close of June, No. 91 had flown 1048 hr. 55 min. operationally and had destroyed 63 "divers".

All through the month of July, No. 91 Squadron kept up the hectic pace. The record book shows:

July	Sorties	Destroyed
1	24	6 divers
3	20	7 divers
4	45	7 divers
5	34	6 divers
7	46	12 divers

* *Ramrod* was target elimination by fighter-protected bombers. *Rodeo* was a fighter "sweep" over enemy-held territory. *Rhubarbs* were small-scale fighter ground attacks on targets-of-opportunity.



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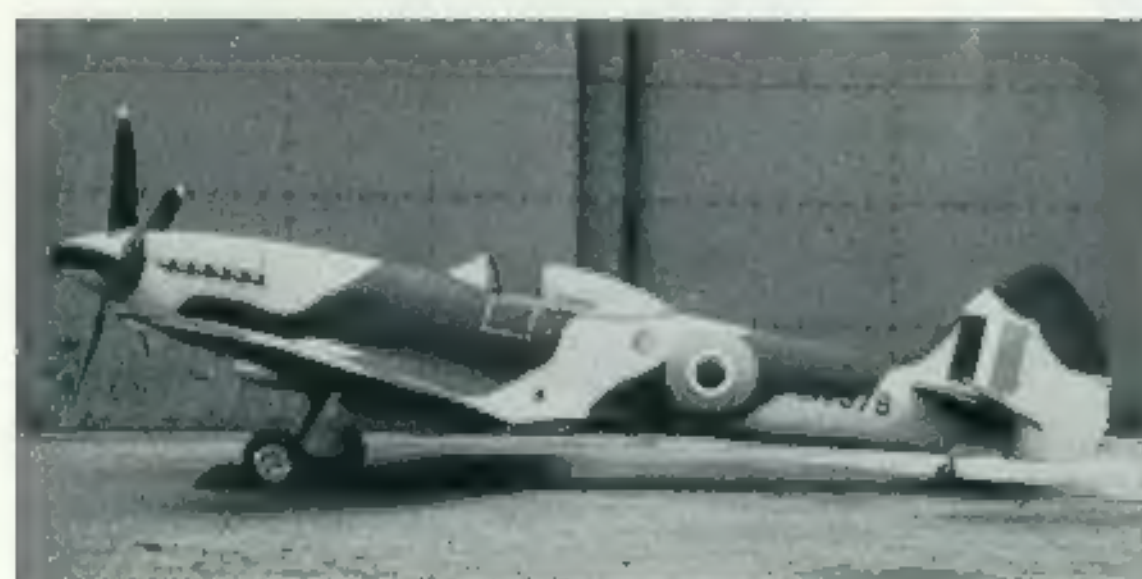
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(Photos 1-3)

Spitfire (Fighter-Reconnaissance) FR.Mk.XIV E (MV247), with experimental long-range fuel tank.

(Photo: IWM, ATP.15083c)

In continental Europe, October 4, 1945, a Spitfire FR.Mk.XIV E (NH895) of No. 451 Squadron, Royal Australian Air Force. Over-painting of "Sky" band has partially obscured the RAF serial number.

(Photo: Frank Smith)

About to change nationality, a Spitfire FR.Mk.XIV E (RM802) at RAF Colerne in 1947 being prepared for ferrying to Belgium to serve with the 2ème Wing de Chasse as "SG44". Spinner in white and blue later painted grey; white serial has been chalked on the Belgian Air Force fuselage roundel. With full-span wings, this is an unusual Fighter-Reconnaissance variant.

(Photo: K. Rutterford)

(Photos 4-6)

A Spitfire FR.Mk.XIV E (MV307) at RAF Station Tangmere, during a "summer camp" exercise by No. 600 Squadron, Auxiliary Air Force. Note that "RAG-C" (No. 600 Sqn.) has wing cannon removed.

(Photo: Peter Arnold collection)

Destined for the Belgian Air Force as "SG 50" in 1947, a Spitfire FR.Mk.XIV E (MV378; ex-No. 412 Squadron, Royal Canadian Air Force) at Colerne prior to ferrying to 2ème Wing de Chasse/1re Escadrille. Noteworthy is the different design of camera port applied to "tear-drop" canopy Mk.XIVs.

(Photo: K. Rutterford)

Photographed on November 1, 1947, the first Belgian Spitfire F.Mk.XIV E ("SG1"), allocated to 1W/349ème Escadrille de Chasse, still displayed its ex-RAF serial NH655.

(Photo: via author's collection)

and so on until the end of the month, by which time 104 divers had been destroyed, bringing the total to 167.

There was a debit side, too. Flying Officer McKinley of No. 610 Squadron crashed in RB142 on July 12, after flying through the explosion of a "diver" which he had attacked. Flight Lieutenant Seghers of No. 91 Squadron collided with a V.1 near East Hoathley (Sussex) on July 26 and crashed in RM743. On July 31, Flying Officer Schade of No. 91 was killed in RM654 following a collision with a Hawker Tempest. By this time No. 91 Squadron was based at Deansland (Sussex).

In order to improve performance against the V.1, the Spitfire XIVs of No. 610 Squadron were modified, resulting in engine boost being increased from 18 to 21 lb. and the use of 150 grade octane in place of the normal 130 octane.

Further steps taken to improve speed resulted in the removal of the 0.303-inch Browning machine-guns, the cavities being filled with wooden plugs. Rear-view mirrors were also removed and the surface of the aircraft was highly polished.

Another re-equipping with Mk.XIVs began on August 3, when No. 130 Squadron received its first Griffon-Spitfires at Tangmere (W. Sussex). In just over a week it made a move to join the other R.A.F. squadrons at Lympne (Kent) engaged in "anti-diver" patrols and marked up its first success on the 16th.

These activities were, however, short lived and two days later the Squadron was transferred to offensive "sweeps" and *Ramrods*.

Then on August 9, 1944, No. 91 Squadron handed over its Mk.XIVs to No. 402 Squadron; taking in exchange the latter's Mk.IX Spitfires.

On the same day, No. 350 Squadron was taking delivery of its first Mk.XIV Es at Hawkinge in Kent. They immediately became involved in "anti-diver" patrols on the following day when 23 sorties were flown. Their first success came on August 15, when Flying Officer Van der Veken (RM655) and Sergeant Boels (RM748) jointly destroyed a "diver" near Ashford, Kent.

After running out of ammunition on August 20, Flight Sergeant Liva tipped his "diver" over causing it to crash; damaging a wing tip of RM701 in the process.

During the V.1 campaign, the Spitfire XIV Wing—as it had become—shot down 300 of the 429 "bombs" claimed by the home defence. No. 91 Squadron claimed 184 "divers" and No. 601 claimed a further 50.

During August, No. 322 Squadron relinquished its Mk.XIVs at Hawkinge for Spitfire Mk.IXs.

Spitfire Mk.XIVs were taken-on-charge by No. 41 Squadron on September 12; parting with Spitfire Mk.XIIs which had been on strength since April 1943. Two days later, the first mission using the new aircraft was carried out by Flying Officer D. E. Tebbit (RM698) and Flight Sergeant R. Stephenson (RM797). They helped to provide escort cover for a raid by USAAF Boeing B-17 Fortress bombers.

On September 16, Blue Section of No. 41 Squadron (comprising RM699, 710 and 770) attacked a secret weapon site at the Hague; while some 10 miles further n.e. and at the same time, Red Section (with RM789, 790 and 791) carried out an armed reconnaissance in the Katwijk-aan-Zee area.

Squadrons continued to move over to the Continent as the Allied advance continued; and, as part of this strategy, No. 130 Squadron made the trip across the

Key to colour illustrations

- 1 TX986—Supermarine Spitfire FR.Mk.XIV E, post-1945, serving with an unidentified Royal Air Force unit in the Far East. Reconnaissance camera port is behind cockpit.
- 2 SG 19—Spitfire F.Mk.XIV E of the Belgian Air Force in 1950 when ex-RAF serial RM906 served with 2eme Wing/3eme Escadrille. It survived two accidents with 3 Esc. before passing on to another unit, possibly the Ecole de Chasse.
- 3 G-ALGT—An F.Mk.XIV E (ex-RM689) which, after RAF service, was acquired by Rolls-Royce Ltd. for liaison duties. For the "Battle of Britain" film, G-ALGT was accorded wingtips and camouflage. Currently flown with marks of No. 130 Sqn, RAF ("RM619", coded "AP-D").

English Channel on September 30 to become part of No. 125 Wing, 83 Group, Second Tactical Air Force. The Mk.XIV Es (including RM675, 695, 700, 738, 749, 750, 753, 756, 757, 760, 762 and 808) had been picked up at Lympne; having been left there by No. 350 Squadron.

During October, a new phase of operations was launched. This was directed against the Messerschmitt Me 262 two-jet fighter and resulted in "anti-jet" patrols. On the 11th, No. 130 carried out three dozen such sorties. The pilots on returning, although unsuccessful in achieving interception, formed the opinion that given adequate height and a reasonable position from which to attack, the new threat posed by the jet fighter would quickly be nullified.

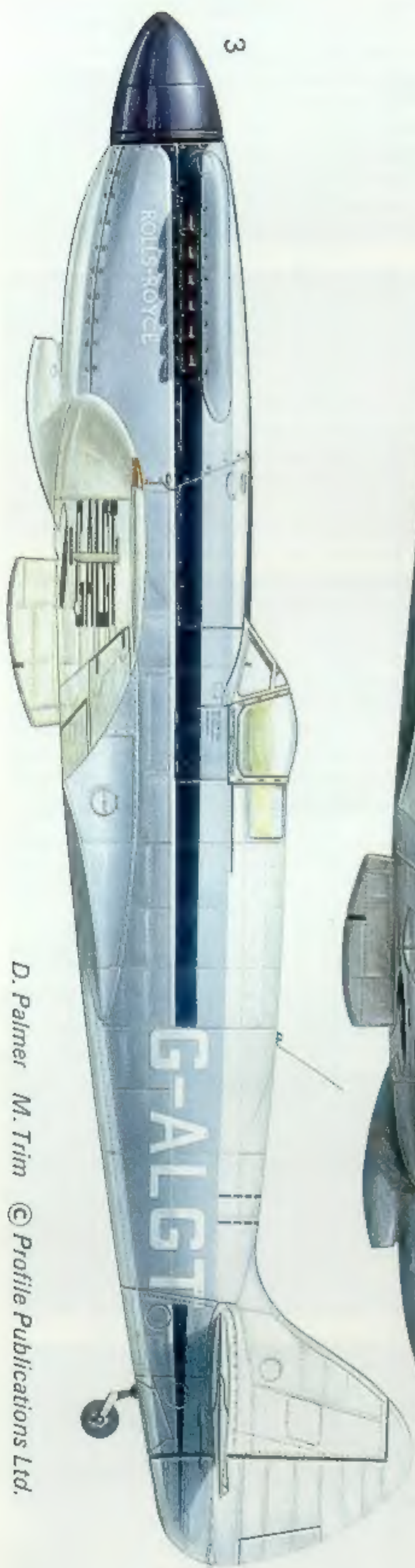
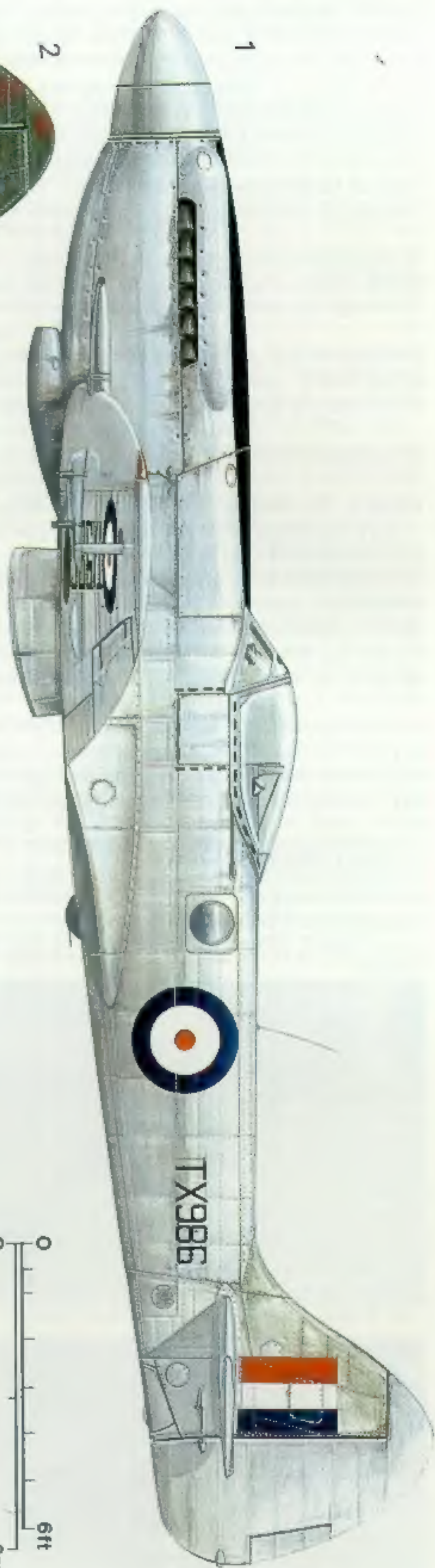
Worth correcting at this point is an incident previously purported to give credit to a Spitfire XIV of No. 401 Squadron, RCAF, for the destruction of the first Me 262 jet fighter on October 5, 1944. A check of the squadron records shows that this enemy aircraft was in fact intercepted and shot down by five Spitfire IXs of No. 401 Squadron, which were on strength at the time. In fact, its Mk.XIVs did not arrive until May 6, 1945.

Armed reconnaissance missions were normally carried out at low level with the result that these aircraft were subjected to even small arms fire. To illustrate this, 12 Mk.XIVs of No. 130 Squadron (led by Squadron Leader Tripe, DFC) were engaged in attacks on enemy motor transport on October 24. During this time the squadron leader's Spitfire was struck in the cockpit by a revolver bullet which had been fired by an angry member of the *Wehrmacht* travelling in a bus then being attacked.

Personnel from No. 430 Squadron ferried in their first five Spitfire XIVs from No. 83 Ground Servicing Unit, Tangmere, near Chichester (Sussex), to their base at B.78 Advanced Landing Ground in the Netherlands on November 25. By the following day they were flying their first mission—with RM821: "B" and RM876: "U"—on a tactical reconnaissance mission in the Geldern area.

Two Me 262s were encountered on December 8 by Flight Lieutenant R. E. Anderson (RM769) of No. 41 Squadron and Flight Lieutenant J. G. Refshauge (RM 696) to north of Nijmegen. But no results were obtained.

Two other incidents occurred that same day, both involving No. 130 Squadron aircraft. The first arose when 10 Spitfires were engaged by 12 Messerschmitt Bf 109s and Focke-Wulf FW 190s. Three enemy aircraft destroyed plus two probables were claimed for the loss of one Spitfire (RM749).





Two views of ex-RAF No. 610 Squadron, Auxiliary Air Force, Spitfire Mk. XIV (RB163) as Belgian Air Force "SG5": (top left) as BAF code GE-O of 1W/349 Esc., after it had lost a wheel on landing, and (top right) later, in natural metal finish, as IQ-E when allocated to the École de Chasse.

(Photos: via author's collection)

Former Royal Canadian Air Force No. 402 Squadron Spitfire F.Mk. XIV E (RM726) in the guise of BAF "SG14": (lower left) while still retaining the RAF serial. Note that the windshield rear-view mirror is absent, and (lower right) as UR-R of 2W/2 Esc. Observe that the wing cannon "blisters" are painted black and the "comet" heraldry on the motor cowling.

(Photos: via author's collection)

The second incident concerned a flight of four aircraft, operating from Brussels, which ran into a snowstorm. Two (RB158 and 189) ran out of fuel and both crashed in fields at Moldegem.

A loss to No. 41 Squadron occurred on December 18, when RM699 was hit by *flak* and crashed in flames while on an armed reconnaissance. The pilot, Warrant Officer Appleton, baled-out safely.

Heavy *flak* was, in fact, taking its toll—particularly on the Spitfires engaged in the low altitude missions. No. 350 Squadron was on the receiving end of a fair proportion of this, although not always originating from enemy lines.

On December 23, for example, RB169 and NH720 were both damaged by American ground batteries; while on the 24th, enemy *flak* was responsible for the loss of S/Ldr. Collignon's aircraft RM690 after he was forced to bale-out. RB161 was hit at the same time.

Christmas Day brought no respite for No. 350 Squadron, part of which was spent in attacking enemy convoys. RB189 was lost in the morning and RB169 in the afternoon when Flight Sergeant Kicq made a forced landing near base.

The first loss sustained by No. 430 Squadron occurred on December 31 when Flying Officer J. McLeod (RM818: "C") developed a glycol leak while carrying out a joint reconnaissance mission with RM852: "J". The pilot was unsuccessful in his attempts to bale-out and the aircraft crashed after the engine seized-up.

Enemy ground fire scored three successes against No. 130 Squadron on the 14th when their aircraft were operating s.e. of Liège in the Malmédy area. Fortunately, the pilots of RM655, 762 and 875 all returned safely.

Yet another loss to *flak* occurred on January 16, when

RM619 of No. 350 Squadron was lost near Aachen. The pilot baled-out successfully behind enemy lines. This Mk. XIV had previously served with Nos. 91 and 130 Squadrons before being taken-on-charge on October 4, 1944.

Seven aircraft of No. 41 Squadron took off at 08:40 on an armed reconnaissance on January 23, in the Munster area where they encountered a number of long-nosed Focke-Wulf FW 190s. A successful interception resulted and two enemy aircraft were shot down by Squadron Leader Benthams (RM791) and another fell to the guns of Flying Officer Hegarty (RM698). Unfortunately, Flight Lieutenant M. Balasse (in RM765) failed to return.

On the same day, No. 130 Squadron lost RM756 in the Ardennes, after being hit by *flak*.

By the end of January 1945, No. 430 Squadron had built up its strength of Mk. XIVs to 17, during which month it had completed a total of 221 operational flying hours.

Two aircraft were lost by the squadron in February. On the 8th, RM823: "O" crashed after engine failure and, on the 14th RM824: "Z" was damaged after being hit by anti-aircraft fire.

Enemy aircraft were active on February 21, when a patrol from No. 350 Squadron encountered 20 Bf 109s. In the ensuing battle Flight Lieutenant Lavigne (RM729) destroyed one as did Pilot Officer Lambred (RM678), who also damaged another. A third was destroyed by Flying Officer Van Wersch in RM648.

No. 414 Squadron, 2nd Tactical Air Force, was based at Petit Brogel in Belgium, when it received its first FR. Mk. XIVs (with "tear-drop" canopies) on April 4, 1945. These Mk. XIVs, ferried out from the United

Kingdom, were in action within a week from their new base at B.108 airfield in Germany. The squadron did not, however, relinquish all its previous equipment—Spitfire Mk.IXs—which it continued to use in conjunction with the Mk.XIVs, until May 5, 1945.

Profit and loss entries were recorded by No. 350 Squadron on April 5, when Flying Officer Muls in RB189:("MN-G") and his number two, a Flight Sergeant, in RB181:("MN-H") took off from Airfield B.78 in the Netherlands on an armed reconnaissance mission, during which they shot down one FW 190.

In a later mission, Flying Officer Cresswell-Turner in RB185:("MN-L") failed to return after being "bounced" by a number of FW 190s.

Spitfire Mk.XIVs of No. 41 Squadron operating from Twente Airfield in Holland, scored a number of successes against enemy aircraft during April 1945. On the 11th, Flight Lieutenant F. Gaze (SM823) shot down a Junkers Ju 52/3m while patrolling the Bremen-Nienburg area. The following day, Gaze (again in SM823) intercepted an Arado Ar 234 *Blitz* over Bremen and opened fire, hitting the enemy aircraft in the starboard jet. Recovering from a spin, the Ar 234 was then attacked by Flight Lieutenant Rake (MV267). It was further damaged and blew up when attempting to make a forced landing.

On April 14, Squadron Leader J. B. Shepperd (SM826) was engaged on an armed reconnaissance when he engaged a Bf 110 towing a Me 163 (rocket-powered fighter) near Bremen. One burst sent the Bf 110 into an uncontrollable dive. The jet fighter which had broken loose, failed to regain control and also dived into the ground. Then on the 15th, an FW 190 was destroyed by Flight Lieutenant Middler (RM824:("Z")) of No. 430 Squadron near Velwen.

The following day, pilots of No. 41 Squadron—now operating from Celle in Germany—encountered and destroyed three FW 190 fighters. The "kills" were made by Wing Commander Keefer (MV257), Flying Officer Withers (MV249) and Squadron Leader Shepherd (MV267).

A Junkers Ju 88 was destroyed by Flying Officer Hegarty (SM826) at Lübeck on April 17.

A loss to No. 41 Squadron occurred on the 24th when NM821 was hit by *flak* while on a tactical reconnaissance from B.154 airfield. The pilot baled-out safely but the Mk.XIV crashed in flames.

Operating from Celle on the same day, Squadron Leader Walmsley of No. 350 Squadron—their new Commanding Officer—shot down an FW 190 in SM825:("MN-H"). Unfortunately, Flight Lieutenant



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1 On October 5, 1950, Spitfire F.Mk.XIV E (RN201; BAF "SG31") of 2W/3 Esc. was written-off after a heavy landing. It is now preserved as a "gate guardian" at the Escadrille Auxiliaire base, Beauvechain, s.e. of Brussels, as "SG3". (Photo: via author's collection)

2 Natural metal-finish Belgian Air Force "SG45", a Spitfire Mk.XIV (RN119) with code UR-Q of 2W/2 Esc., but originally with No. 412 Squadron, Royal Canadian Air Force. (Photo: via author's collection)

3/4 Accident-prone "SG52", a Belgian Air Force Spitfire Mk.XIV (RM882) previously with No. 414 Squadron, Royal Canadian Air Force. On January 7, 1949 while coded IQ-S of the Ecole de Chasse and retaining RAF serial and "Sky" rear-fuselage band; and (below right) on March 16, 1951, as JR-V of 2W/1 Esc. (Photos: via author's collection)

■ Another Belgian Air Force Spitfire Mk.XIV (MV382) which came to grief was "SG80" of the Escadrille Auxiliaire. This Mk.XIV, coded GV-S, crashed at Beauvechain on July 20, 1952. Cannon stubs are painted black. (Photo: via author's collection)



Variations on ■ painting theme. Two Supermarine Spitfire F.Mk.XIV Es of No. 17 Squadron, RAF, at Seletar, late 1945.

M. Trim © Profile Publications Ltd.



0 5ft
0 2m





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1 Belgian Air Force "SG64", a Spitfire FR Mk XIV E (TZ192), of the Ecole de Chasse, coded IQ-F had a nose for trouble. On March 12, 1952 it dug well into the ground as shown; and, on October 23 of the same year, this ex-No. 453 Squadron, Royal Australian Air Force Mk XIV crashed for the last time.
(Photo: via author's collection)

2 A trio of Spitfire Mk XIVs of No. 17 Squadron, RAF, photographed after successfully taking-off from the carrier HMS Trumpeter in September 1945.
(Photo: G. E. Thomas)

3 Spitfire FR Mk XIV E (TZ112) of No. 1 Squadron, Royal Air Force, photographed in natural metal finish of the post-war period.
(Photo: via author's collection)

4 Trial take-off of F Mk XIV E of No. 11 Squadron, RAF, from the carrier HMS Emperor off Trincomalee, Ceylon, in September 1945.
(Photo: N. Spainter via M. Garbett)

5 September 1945, aboard the carrier, HMS Trumpeter, manhandling Spitfire FR Mk XIV E (NH748) of "A" Flight, No. 11 Squadron, RAF, bound for Kuala Lumpur, Malaya. On October 18, 1945, NH748 collided with another Mk XIV (MV356) while landing at Seletar on Singapore island.
(Photo: G. E. Thomas)

De Patoul in RM618 ("MN-P") failed to return, presumably due to engine trouble, after getting a "probable". The following day No. 350's C.O. repeated his success in SM825.

Two Me 262s were chased to Lübeck on the 25th by No. 41 Squadron, where they made panic landings from opposite ends of the runway. One enemy aircraft was destroyed by Flight Lieutenant Colwell (MV266) and the other was claimed as "damaged".

Lost by No. 430 Squadron on April 27 was RM821: "B" when the Mk XIV dived into the ground.

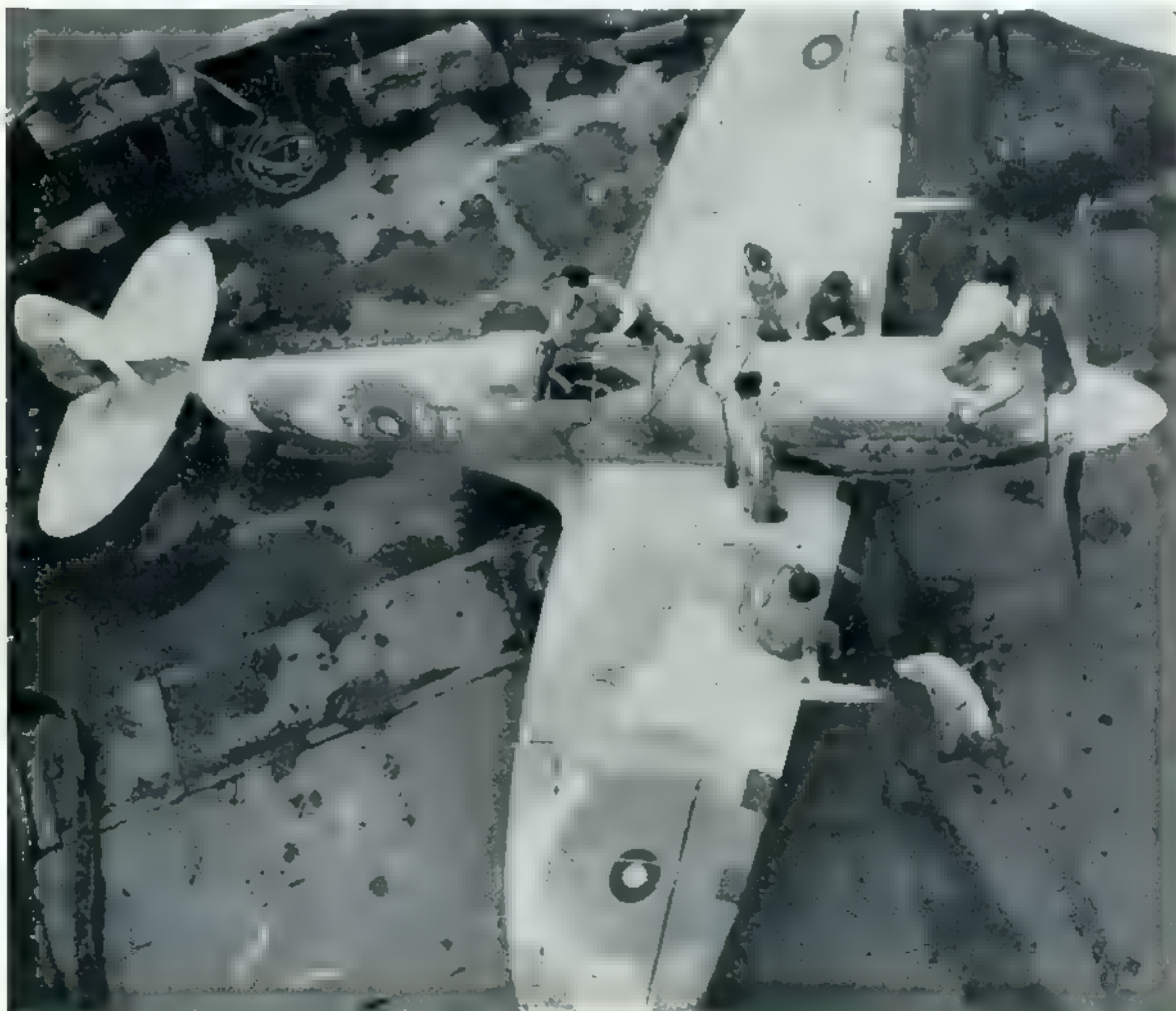
Re-equipping No. 401 Squadron with Mk XIVs began on May 6, 1945. Unfortunately, the C.O., Squadron Leader W. Klery, DFC and Bar, went missing on the 22nd, while on a training flight.

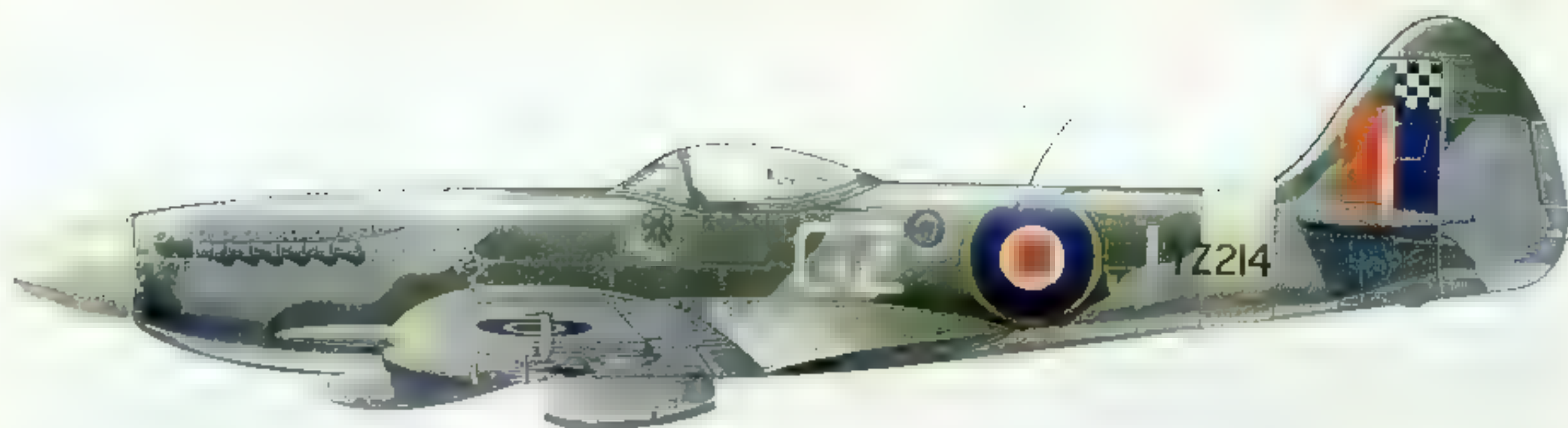
Royal Air Force No. 11 Squadron Spitfire, an FR.Mk.XIV E (MV294), flying over Singapore Island in October 1945.

(Photo: via G. E. Thomas)

A Spitfire F.Mk.XIV E (RN137), one of 20 aboard HMS Vindex, at Iwakuni, s.e. Honshu, September 1946. They were part of the reinforcement for the Air Component, British Commonwealth Occupation Force which included Nos. 11 and 17 Squadrons, RAF. Old-size roundel appears beneath the SEAC specification which also demanded white bands on wing and tail surfaces.

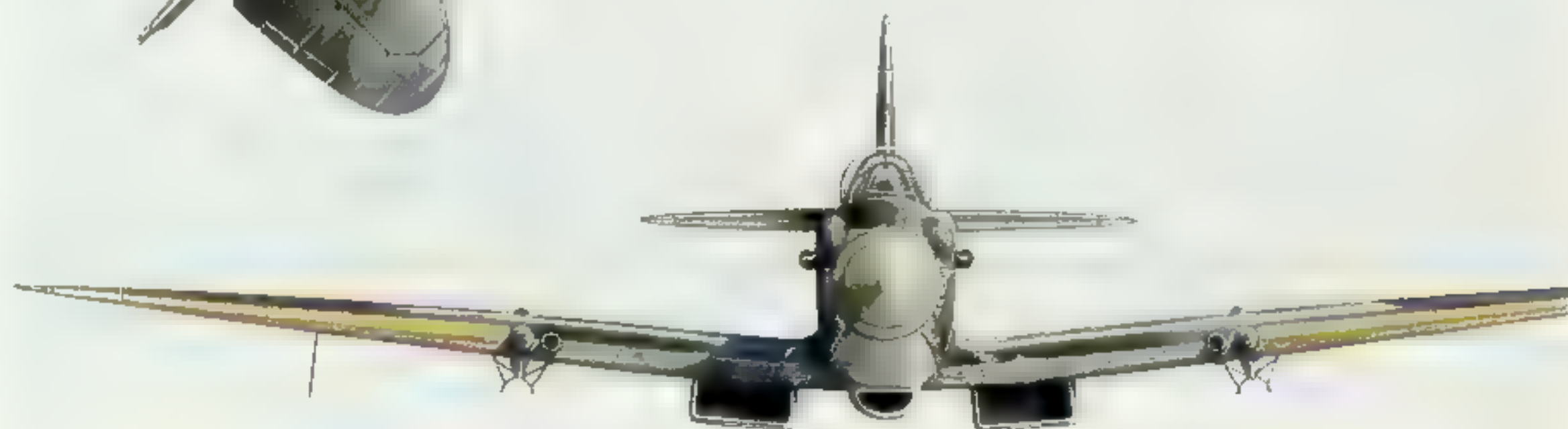
(Photo: IWM, FE.599)





A Spitfire FR.Mk.XVIII of No. 32 Squadron, RAF, which was flown by "A" Flight commander, Flight Lieutenant F. E. Dymond, Palestine, October 1947.

D. Palmer © Profile Publications Ltd.



On moving to Fassberg in Germany on May 7, No. 130-Squadron said farewell to its Mk.XIVs with some reluctance, since with them the squadron had destroyed 98 enemy aircraft since December 1944.

Three FR.Mk.XIVs delivered from Chilbolton (Hampshire) to No. 26 Squadron on June 1, were ready for flight operations by the 11th.

Another exchange took place on June 25, when No. 401 Squadron handed its aircraft to another Canadian unit, No. 411 Squadron.

Meanwhile, the FR.Mk.XIVs of No. 414 Squadron continued to be very active and, given favourable weather, carried out at least two dozen sorties on some days.

Following the cessation of hostilities in Europe little of interest is to be found in the squadrons' records.

However, movements of aircraft between fighter units continued. On September 13, No. 41 Squadron handed over its Mk.XIVs to No. 416 Squadron, who flew them for the first time on the 24th of that month.

ACTION IN THE FAR EAST

By December 1944, R.A.F. Maintenance Units holding new aircraft direct from the production line, received instructions to pass some aircraft to Ground Servicing Units preparatory to despatch to the Far East.

The first Mk.XIVs began their long journey by sea eastwards in January from Cardiff, Glasgow, Hull, Leith and Salford to the Indian ports at Karachi and Bombay.

No. 11 Squadron, the first to receive the long-awaited "new fighter", took delivery of three FR.Mk.XIVs at Chettinad near Bangalore, India, on June 20, 1945.

The aircraft were tested in both normal and clipped-wing configuration, when it was found that the clipped-wing version required an additional 100 ft. of runway to get airborne.

Incidents were recorded. For example, MV319 was damaged in a wheels-up landing on July 18; and, six days later, NH801 "pranged" (crashed) on take-off following an undercarriage collapse.

A move to Malaya took place during September. Aircraft from Nos. 11 and 17 Squadrons had embarked on the aircraft-carrier HMS *Trumpeter*. Leading two aircraft from No. 17 Squadron, the C.O. of No. 11 Squadron, Wing Commander Smith, took-off without trouble, exploiting a wind over deck of some 20 knots. Both squadrons were to be based at Kuala Lumpur (Malaya)—but spent four months (September 1945 to January 1946) at Seletar before returning to "KL".

About this time No. 132 Squadron, previously based at Madura embarked on HMS *Smiter* for its journey to Kai Tak (Hong Kong) where it remained until disbandment on April 15, 1946.

Although No. 155 Squadron had been selected for re-equipment with Mk.XIVs, this did not take place through a move of bases. Instead, the Mk.XIVs went to No. 152 Squadron who, like No. 273, were operating in Burma; transferring to Malaya, September 1945.

As part of the reinforcement for the Air Component, British Commonwealth Occupation Force, the Spitfire Mk.XIVs of Nos. 11 and 17 Squadrons, RAF, were taken by aircraft carrier to Iwakuni, s.e. Honshu, Japan. The first batch of 20 arrived at Iwakuni in September 1946 aboard HMS *Vindex*. Both squadrons remained in Japan until they were disbanded on the same date—February 23, 1948.



At No. 322 Maintenance Unit, RAF, Chakeri, near Delhi, India, April 1, 1947. In the foreground, a Spitfire Mk.XIV E (RM973) with "storm weights" in position; in the background is SM836.

(Photo: Peter Arnold collection)

Spitfire FR.Mk.XIV Es of No. 11 Squadron, RAF, at Seletar, October 1945. Variations in markings: "M" (MV357) and "J" (MV380) have wider fin flashes and white serials while "G" (NH875) and "N" (serial not identifiable) have narrow fin flash, "Sky" band and black serial.

(Photo: D. Healey via G. E. Thomas)

At least 17 Spitfire Mk. XIV and XVIII are thought to exist (see list at end of this Profile). One, an FR.Mk.XIV E (MT847), is shown here as photographed in March 1970 at Royal Air Force Station Cosford, n.w. of Wolverhampton, Staffordshire.

(Photo: Stuart Howe)

A Spitfire FR.Mk.XVIII (TP373) in Palestine in late 1947. Code letters GZ-C identify No. 32 Squadron, RAF. Fin flash is absent.

(Photo: Squadron Leader F. E. Dymond, RAF)

A number of the Mk.XIVs—replaced by the newer Mk.XVIIIs—was transferred to the Royal Indian Air Force; in particular No. 4 Squadron, RIAF.

TYPE 394: SPITFIRE Mk.XVIII

Almost identical in appearance to the Mk.XIV, the Spitfire Mk.XVIII incorporated a new wing design, as opposed to the "universal" wing fitted to the interim Mk.XIV. Armament remained of the "E" wing variation.

Like its predecessor, the Mk.XVIII appeared in two versions, Fighter (F) and Fighter Reconnaissance (FR) the latter having provision for two vertical and one oblique F.24 cameras. The vertical camera port distinguished it from the Mk.XIV.

Additional fuel tankage was available in the rear fuselage although this was reduced to one tank in the FR version because of the camera installation.

Both versions were produced with a 360°-vision "bubble" canopy and, unlike the Mk.XIV, all aircraft had full span wings.

Initially the Mk.XVIII flew with a Rolls-Royce Griffon 65 engine, but later the Griffon 67 was introduced and offered an additional 300 h.p.

The first aircraft to be delivered to the R.A.F. was SM844 (FR.Mk.XVIII) on May 28, 1945, going first to No. 39 M.U. and eventually reaching No. 28 Squadron in Hong Kong.

The first F.Mk.XVIII (NH872) was delivered on June 8 to the Supermarine aerodrome at High Post (near Boscombe Down) for tests prior to being handed over to A&AEE.

Subsequent deliveries were mixed. The last one to be delivered was TP235 (an F.Mk.XVIII) which went first to No. 6 M.U., then 226 O.C.U. Bentwaters and finally to No. 60 Squadron at Seletar, Singapore Island.

Three Mk.XVIIIs were subjected to tests by the A&AEE at Boscombe Down.

NH872. Handling tests with a 90 Imperial gallon drop-tank and tests to determine the aftmost acceptable centre-of-gravity position.

TP297. Camera and gun heating trials and the installation of a F.24 camera with two split vertical and one oblique angles, were carried out.

TP423. An installation of two 20 mm. Mk.2 cannon (CGS Mk.40) was tested by TP423.

Because of its late appearance, the Mk.XVIII did not see widespread service and the majority of them went directly into storage at maintenance units.

A number, however, did serve with Nos. 32 and 208 Squadrons in the Middle East and Nos. 11, 28, 60 and 81 in the Far East.

No. 60 Squadron had the distinction of flying the first and last Mk.XVIII in the Far East. It was based at Tengah, Singapore, when the first aircraft arrived in crates at Seletar on December 24, 1946. As work was being carried out on the runway at Tengah, the aircraft (including TP202:"P", TP204:"N" and TP209:"E") were assembled and flown from Seletar. First flight was on January 17, 1947.

On completion of work at Tengah, on January 31, No. 60 Squadron moved back to there and was joined by No. 28 Squadron. Each Squadron had eight aircraft.

During the Malaya Emergency some of the Spitfires flown by No. 60 Squadron carried coloured bands round the nose, immediately aft of the spinner. During this



Destined for the Middle East and No. 208 Squadron, RAF, a Spitfire FR.Mk.XVIII (TP334) photographed while, presumably, still being held by No. 109 Maintenance Unit, RAF. The camera port is covered.

(Photo: Air-Britain Photo Library)

Line-up of Spitfire FR.Mk.XVIIIs of No. 208 Squadron, RAF, at Fayid in Egypt: 1949-50 period.

(Photo: J. Gilkes via B. Goulding)

Camera port is covered because the Spitfire FR.Mk.XVIIIs of No. 32 Squadron, RAF, was employed solely on fighter and not fighter-reconnaissance duties. The Mk.XVIII is GZ-Y (TZ211).

(Photo: Squadron Leader Middlebrook, RAF via B. Goulding)

TP453, with individual letter "Y" was a Spitfire FR.Mk.XVIII allocated to No. 208 Squadron, RAF.

(Photo: via R. C. Jones)

period, No. 81 Squadron, was also in action against the terrorists using FR.Mk.XVIII's.

The last strike by a Spitfire of No. 60 Squadron was carried out on January 1, 1951.

In the Middle East, Nos. 32 and 208 Squadrons were both serving in Palestine before the British Mandate came to an end on May 15, 1948.

Prior to this, however, the atmosphere was to say the least "touchy" and on two occasions No. 208 Squadron suffered losses as a result of attacks by both Egyptian and Israeli aircraft.

On May 22, 1948, TP336, 364 ("RG-Z"), TP443, 446 and 450 were damaged by Egyptian Spitfire Mk.IXs.

Even after the Mandate ceased, No. 208 Squadron was still not out of danger despite having moved, like its companion Squadron No. 32, to Nicosia in Cyprus.

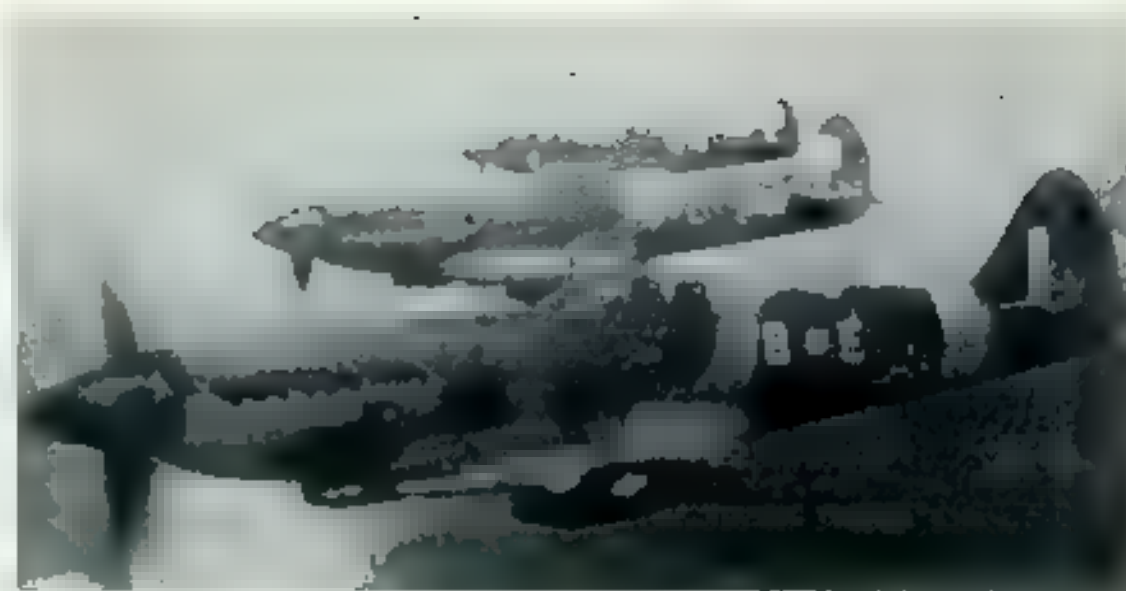
On January 8, 1949, TP340 was damaged by Israeli fighters.

Mk.XVIII: SUPERB TO FLY

The Mk.XVIII required to be handled with a degree of respect by its pilot, particularly on take-off, due to the torque from the engine. Even with full rudder applied, it was not possible to hold the aircraft on a straight course at full throttle.

An improvement incorporated into the Mk.XVIII was the automatic throttle and boost setting control.

In the air, however, it was a superb aircraft to fly and with no vices at all. At 41,000 feet, it still had power in hand.



RAF No. 17 Squadron Spitfire Mk.XIV's temporarily operating from Seletar, Singapore Island, in late 1945.

(Photo: D. Healey via G. E. Thomas)

ACKNOWLEDGEMENTS

The author wishes to record at least some names of those whose expert help and advice has made this Profile possible. In particular, Dave Birch who supplied information relating to the Rolls-Royce Griffon engine, to Brian Goulding, Mike Garbett, Ted Hooten and Chris Shores for photographs and general information. Also to John Rawlings and Bruce Robertson for help through their own books, *Fighter Squadrons of the R.A.F.* and *Spitfire, Story of a Famous Fighter*.

Thanks also due to Peter Arnold, Squadron Leader F. E. Dymond, Stuart Howe, Bob Jones, Ken Rutterford, Frank Smith, Geoff Thomas and Graham Trant who generously supplied information and photographs, and to Mr E. Munday of the Air Historical Branch, M.O.D.

Last but by no means least sincere thanks to Commandant Verelst for his exhaustive assistance on the Belgian Air Force Spitfires.

DESCRIPTION AND SPECIFICATIONS

Spitfire Mk.XIV

Fuselage

Comprising five main longerons—two bottom, one top and two datum—plus 16 oval frames. Rear end detachable—and containing retractable tail wheel—bolted to the main section.

Stressed-skin covering stiffened by intercostals. At forward end, a fireproof bulkhead, the base of which were four channel sections with attachment points for the mainplane spars. Ahead of this bulkhead, the tubular frame on which was mounted the Griffon engine.

To the rear, the cockpit with an access door on the port side. The sliding hood and side panels of the windscreen were of Perspex. A bullet-proof panel was bolted to the front. The hood could be jettisoned in an emergency. To assist break-out, a crowbar was situated on the inside of access door. The pilot was protected by armour plate attached to the seat and top of the bulkhead.

Behind the cockpit were housed the two main fuel tanks, the upper one being self-sealing.

A bomb rack could be attached to the centre-section.

Tail unit

Consisted of fin, rudder and elevators. The rudder and elevators were horn balanced and fitted with trim tabs.

Covering, stressed-skin, apart from metal rudder, trim tabs and elevators, which were fabric covered.

Mainplane

Each mainplane consisted of two units—(i) a front spar and leading-edge, and (ii) the main unit containing a rear spar, main and trailing ribs.

The front spar, which was bolted on to the fuselage stub spar, also provided attachment for the main undercarriage lags.

The rear spar attached to the fuselage by means of a bracket, provided support for the moving surfaces.

Each mainplane provided a housing for a fuel tank, cannon and machine-gun bays. A navigation lamp was situated in the wing-tip which was detachable.

Split trailing edge flaps were metal covered, as opposed to the ailerons which were covered with stressed skin.

The lowering of the flaps was accomplished by operating a lever on the port top side of the instrument panel.

Pneumatic power was used to lower the flaps, but the raising was left to the slipstream forces. Bomb and rocket racks could be attached to the underside of each mainplane.

Undercarriage

Consisted of two cantilever main wheel units plus the self centring tail wheel, all of which were retractable. Main units retracted outwards and upwards into walls in the underside of the mainplanes. The operating lever was situated on the starboard side of the cockpit.

The tail wheel retracted backwards and was fully enclosed by fairing doors. Main wheels only partially enclosed when fully retracted. Hydraulic power was used for the raising and lowering of the undercarriage, although in an emergency the lowering could also be achieved by a stand by system fed

with carbon dioxide. Visual indicator lights were situated on the instrument panel. Track of undercarriage, 11 ft 8½ in.

SPECIFICATION Mk.XIV

Dimensions Span, 36 ft 10 in. (FR.XIV 32 ft 7 in.); length, 32 ft. 11 in.; height, 12 ft 8½ in. Tailplane span, 10 ft 6 in.

Areas Mainplane with aileron and flap, 242 sq.ft. Incidence at root, 2°. Dihedral, 6°. Aileron, 18.9 sq.ft.; movements, up, 24°; down, 19°. Flaps, 15.4 sq.ft. Movement, 85° down.

Tailplane Area including elevators, 33.84 sq.ft. Incidence, 0°. Elevators including trimmer tabs, 13.74 sq.ft. Trimmer tabs, 0.688 sq.ft. Elevator movement, 28° up, 23° down. Trimmer tabs, 20° up, 23° down.

Fin and rudder Fin area 8.65 sq.ft. Rudder area including trimmer tabs, 10.08 sq.ft. (trim tabs, 0.7 sq.ft.) Movement, 28½° in each direction. Rudder tab setting, 0.2 in. starboard; trimming, 9° port and 13½° starboard.

Powerplant One Rolls-Royce Griffon 65 liquid-cooled engine 12-cylinder upright-Vee inline with two-speed, two-stage supercharger.

Rotol constant-speed propeller fitted with five Jablo blades. Left-hand rotation, diameter, 10 ft. 5 in.; ground clearance (tail-up position), maximum 20 in., minimum 8½ in.; (tail-down) maximum 11 ft. 2½ in., minimum 2 ft. 3 in.

Performance Maximum speed, 450 m.p.h. at operating height. Range on normal capacity, 460 miles. Range with 90-gallon (Imperial) drop tank, 850 miles. Climb 20,000 ft. in 7 minutes. Ceiling, 44,500 ft.

Weights Empty, 6,600 lb. Loaded, 8,500 lb.

Electrical System 12-Volt generator.

Fuel Capacities Forward fuselage self-sealing tanks, upper 36 gal. and lower, 48 gal. FR.Mk.XIV, additional 33-gal. rear fuselage tank. Wings, 12½-gal. each wing (self-sealing). All tanks pressurized, 100 Octane fuel. Maximum operational fuel capacity: 279½ gal. (F.Mk.XIV); 312½ gal. (FR.Mk.XIV). Auxiliary drop tanks, 30, 45, 90 and 170 gal. Oil, 9 gal. Air space, 3 gal. Cooling system, 14½ gal.

Armament

F.Mk.XIV C Two 20-mm. Hispano cannon plus four 0.303-inch Browning machine-guns. One 500 lb. bomb beneath centre-section.

F./Mk.XIV E Two 20-mm. Hispano cannon plus two 0.50-in. Browning machine-guns. Provision for four rocket projectiles beneath each wing. One 500-lb. bomb beneath centre-section, plus one 250-lb. bomb under each wing (when modified).

Double position firing-button on control column; top portion operated machine-guns and bottom portion the cannon. Centre pressure fired all guns simultaneously (pneumatically). Reflector gun-sight with dimmer switch mounted above instrument panel.

Camera-gun Situated in starboard mainplane, operated by gun firing-button. A back up electrical push switch was sited below firing button. Camera-gun could be switched off (if desired) when guns operating.

Camera (FR.Mk.XIV) Provision for one oblique-angled F 24 camera in the fuselage.

Tropicalization Installed as standard on production line—Vokes filter.



October 1947 in British Mandated Palestine. A fighter-reconnaissance Spitfire FR.Mk.XVIII (TZ214) of No. 32 Squadron, RAF. This was the personal Mk.XVIII (coded GZ-J) of the "A" Flight Commander, Flight Lieutenant F. E. Dymond, RAF. (Photo: Squadron Leader F. E. Dymond, RAF)

Another No. 32 Squadron, RAF, Spitfire FR.Mk.XVIII (TZ232). Pilot of GZ-V took-off from Ramat David, near Haifa, in May 1948, only to find throttle jammed. Aircraft hit the ground at 70 mph and cartwheeled two times—yet the pilot escaped unscathed.

(Photo: Squadron Leader Middlebrook, RAF via B. Goulding)

SPITFIRE Mk.XVIII**Dimensions** Span 36 ft. 10 in.; length 33 ft. 3½ in.**Area** As per Mk.XIV.**Power Plant** As per Mk.XIV.**Fuel Capacities** Forward fuselage and wing tanks as Mk.XIV. Two rear fuselage tanks of 31 gal. each. FR.Mk.XVIII only one rear fuselage tank of 31 gal.**Armament (F. & FR. versions)** Two 20-mm. Hispano cannon (120 rounds per gun) plus two 0.50-in. Browning machine-guns (250 r.p.g.). Provision for one 500-lb. bomb beneath centre-section or two 250-lb. bombs (one under each wing). Alternatively, Mk.8 or 11 rocket projectiles (four under each wing).**Weights** Loaded 9,300 lb.**Camera (FR.XVIII)** Two vertical and one oblique F.24 cameras in the fuselage; alternatively, one F.52 camera.**Tropicalization** As per Mk.XIV.**SERIAL ALLOCATION F./FR. Mk.XIV**

MT847-858	NH857-871	RM957-999
MV246-273	NH873-875	RN113-160
MV286-320	NH892-929	RN173-221
MV347-386	NM814-823	SM812-842
NH637-652	RB140-189	SM876-899
NH653-661	RM615-625	SM913-938
NH685-720	RM648-656	TP236-240
NH741-759	RM670-713	TP256
NH775-789	RM726-770	TX974-998
NH790-796	RM783-825	TZ102-149
NH797-813	RM839-887	TZ152-176
NH831-846	RM901-943	TZ178-199

Total produced: 957

SERIAL ALLOCATION F./FR. Mk.XVIII

NH847-856(F)	SM968-997(F)	TP363-408(FR)
NH872(F)	TP195-235(F)	TP423-456(FR)
SM843-845(FR)	TP257-298(FR)	TZ200-207(FR)
SM939-956(F)	TP313-350(FR)	TZ212-240(FR)

Total produced: 300-100(F) and 200(FR) Mk.XVIII

ROYAL AIR FORCE SQUADRONS

Sqn. No.	Sqn. Code	Mark No.	Example in Squadron use	Period in Squadron use
2	OI	F.XIV	RM878 ("OI-C")	Nov. 44-May 45
	—	FR.XIV	TZ126	May 45-Jan. 51
11	—	FR.XIV	NH875 ("G")	Jun. 45-46
	—	F.XVIII	—	45-48
16	—	FR.XIV	NH 864 (ex-268 Sqn.)	Sep. 45
17	YB	F.XIV	RN150 ("YB-W")	Jul. 45-Feb. 48(?)
20	—	FR.XIV	—	Sep. 45-46
26	XC	FR.XIV	TZ103	June 45
28	—	FR.XIV	SM888 ("B")	Oct. 45-Dec. 47
	—	FR.XVIII	TP423 ("A")	Apr. 47-Feb. 51
32	GZ	F.XVIII	TP270 ("GZ-F")	Jun. 47-May 49
41	EB	F.XIV	RM653 ("EB-U")	Sep. 44-Sep. 45
60	—	FR.XIV	NH850 (Z)	46-Jan. 51
60	—	FR.XVIII	TP209 ("E")	46-Jan. 51
85	—	F.XIV	TZ114 ("L")	1946
81	FL	FR.XVIII	TP407 ("FL-D")	Aug. 47
91	DL	F.XIV	RB174 ("DL-T")	Mar. 44-Aug. 44
130	AP	F.XIV	RM619 ("AP-D")	Aug. 44-May 45
132	FF	F.XIV	RM905 ("FF-J")	May 45-Apr. 46
136	HM	F.XIV	RN193 ("HM-A")	Nov. 45-May 46
152	UM	F.XIV	RM908 ("UM-G")	Jan. 46-Mar. 46
208	RG	FR.XVIII	TP295 ("RG-M")	Oct. 46-51
268	—	FR.XIV	NH864 (ex-16 Sqn.)	Apr. 45-Sep. 45
273	MS	F.XIV	RN218 ("MS-F")	Nov. 45-Jan. 46
322	VL	F.XIV	RB160 ("VL-B")	Apr. 44-Aug. 44
350	MN	F.XIV	RB154 ("MN-K")	Aug. 44-46
401	YO	F.XIV	RM935	May 45-Jun. 45
402	AE	F.XIV	RN119 ("AE-J")	Aug. 44-Jun. 45
411	—	FR.XIV	TZ193	June 45
412	—	F.XIV	RM935	Jun. 45-Mar. 46
414	RU	FR.XIV	RM921	Apr. 45-Aug. 45
418	DN	F.XIV	NH692	Sep. 45-Mar. 46
	—	FR.XIV	TZ112	1945
430	G9	FR.XIV	RM910 ("Y")	Nov. 44-Aug. 45
443	—	FR.XIV	NH779	Oct. 45
451	NI	FR.XIV	TZ130 ("NI-B")	Sep. 45-Feb. 46
453	FU	FR.XIV	TZ137 ("FU-C")	June 45
600	RAG	FR.XIV	TZ141 ("RAG-E")	46-47
602	RAI	F.XIV	TX985 ("RAI-B")	Aug. 45-Aug. 47
607	AF/RAN	FR.XIV	TZ116 ("RAN-D")	—
	DW	F.XIV	RB159 ("DW-D")	Jan. 44-Mar. 45
610	RAQ	F.XIV	SM829 ("RAQ-U")	—
	—	FR.XIV	TZ144	June 47
611	RAR	FR.XIV	RM792 ("RAR-J")	Jun. 46-49
612	RAS	F.XIV	NH800 ("RAS-K")	47-48
613	RAT	F.XIV	TX983 ("RAT-J/W")	47-49?
	—	FR.XIV	TZ125	Mar. 47
615	RAV	F.XIV	NH785 ("RAV-V")	Nov. 46-47
	—	FR.XIV	TZ139	Sep. 47-48
616	—	FR.XIV	TZ139; (ex-615 Sqn.)	Sep. 47

EXISTING Mk.XIV and Mk.XVIII AIRFRAMES

MT847 FR.XIV	R.A.F. Museum. Stored at R.A.F. Cosford.
MV262 FR.XIV	National Cadet Corps. Calcutta, India. (Code "G").
NH904 FR.XIV	W. J. D. Roberts. Flimwell, Sussex.
RM689 F.XIV	Rolls-Royce (1971) Ltd. Bristol. (ex-G-ALGT now as RM619: "AP-D")
RM694 F.XIV	J. Lowe. Riverside, Illinois, U.S.A.
RM860 F.XIV	Musée Royal Militaire, Brussels, Belgium. (as SG37, parts of SG37, 46 and 55).
RM921 FR.XIV	Force Aérienne. Florennes, Belgium. (as "RL-D").
RM927 FR.XIV	J. Lowe. Riverside, Illinois, U.S.A. (as SG25: "IQ-W").
RN201 FR.XIV	Force Aérienne. Beauvechain, Belgium. (ex-SG-31 now as "SG-3").
SM986 F.XVIII	Indian Air Force Museum. (as HS986).
TZ138 FR.XIV	M. Hoffman, Fort Collins, Colorado, U.S.A. (as N5506A; ex-N20E)
— XIV	National Cadet Corps. Sangner, India. (as T-17).
— FR.XIV	Indian Air Force. Ambala. (as HS365: "NM").
— FR.XIV	Royal Thai Air Force Museum, Bangkok. (as U.14.1/93).
— FR.XIV	Indian Air Force Technical College, Jallahalli, India. (as T-20).
— XIV	Chandigarh Engineering College, Punjab, India. (as HS674).
— XVIII	Doon School. Dehra-Dun, India.

ROYAL THAI AIR FORCE

Thirty aircraft purchased from Vickers-Armstrongs. Contract signed on April 18, 1950. The first was delivered on December 13, 1950 and the last on July 4, 1951. Aircraft initially assigned to 1st Fighter Squadron (1st Wing) and Special Squadron (4th Wing). On April 11, 1954, all aircraft reassigned to 12th Fighter Squadron. Phased-out of service on April 26, 1955.

The R.T.A.F. Spitfires were allocated markings U.14.1/93 to U.14.30/93 inclusive, but unfortunately the previous R.A.F. identities are unknown.

ROYAL INDIAN AIR FORCE

A number of Mk.XIVs previously based in India was handed over to the R.I.A.F. after the end of World War Two. Neither the number nor the identities of all the aircraft supplied are known, but they served with Nos. 1, 2, 3, 6, 8, and 9 Squadrons.

Aircraft serving with No.8 Squadron at Ranchi in 1947, included MT848; MV 304, 305, 372 and 377.

The R.I.A.F. also received a number of Mk.XVIII in 1947 which served with Nos.14 and 15 Squadrons. Aircraft included NH848, 855; TP286, 288, 319, 326 and 339.

As far as is known the R.I.A.F. retained the R.A.F. serials on their aircraft; some were later sprayed silver overall.

SPITFIRES IN SERVICE WITH BELGIAN AIR FORCE

A total of 132 Spitfire F. & FR.Mk.XIVs sold to Belgium in 1947. Deliveries to *Aviation Militaire* later *Force Aérienne*, were made by a team under the control of Major Avi. Legrand, Captain Avi. Eyskens and Lieutenant Avi. Blanco, who ferried the aircraft out from the U.K. (frequently Manaton in Kent) over a period of two years. The Spitfires were given new serials ranging from SG1 to SG132 inclusive. From SG108 onwards only nine BAF serials can be identified against BAF units. The aircraft were "second-hand" and overhauled before delivery.

349 Sqn. (GE)	1st Wing de Chasse	—1W/349 Esc. Base Beauvechain.
350 Sqn. (MN)	" " " "	—1W/350 Esc. " "
1 Sqn. (3R)	2nd Wing de Chasse	—2W/1 Esc. Base Florennes.
2 Sqn. (UR)	" " " "	—2W/2 Esc. " "
3 Sqn. (YL)	" " " "	—2W/3 Esc. " "

31 Sqn. (BS)	10th Wing de Chasse	Base Petit-Brogel.
Ecole de Chasse (IQ)	" " " "	—Ec.Ch. Base Brustem & Coxyde.
Escadrille Auxiliare (GV)	" " " "	—Esc.Aux. Base Beauvechain.

BAF serial	Ex-RAF serial	Last RAF Squadron	BAF units and codes
SG1	NH655	322	1W/349 Esc. GE-A. GE-N. Ec.Ch.IQ. Crashed 7.11.49.
SG2	RB166	610	1W/349 Esc.GE-B.
SG3	RM916	41	1W/349 Esc.2W/2 Esc. UR-M. Ec.Ch.IQ.
SG4	MV248	430	1W/349 Esc.Ec.Ch.
SG5	RB163	610	1W/349 Esc.GE-O. Ec.Ch. IQ-E.
SG6	RM701	41	1W/349 Esc.GE-E. 2W/3 Esc.YL-
SG7	RN121	130	2W/1 Esc.3R-G. Crashed 15.3.51.
SG8	NH654	350	1W/ 2W/2 Esc. UR-O. Heavy landing 28.10.50.
SG9	SM938		1W/349 Esc.GE-O. Es.Ch.IQ-S. Crashed 12.5.50.
SG10	RM768		1W/ Ec.Ch. IQ-G. Crashed 14.4.48.
SG11	RM672	350	2W/1 Esc.3R-T. Crashed 5.8.53.
SG12	RM870		1W/350 Esc.MN-H. Es.Ch. IQ-Z. Crashed 5.1.50.

BAF serial	Ex-RAF serial	Last RAF Squadron	BAF units and codes	BAF serial	Ex-RAF serial	Last RAF Squadron	BAF units and codes
SG13	RB154	350	1W/350 Esc.MN-K. 1W/349 GE-E.Es.Ch. IQ-V. Preserved.	SG60	RM933	402	1W/349 Esc.GE-S. 2W/1 Esc.3R-V. Ec.Ch.IQ-
SG14	RM726	402	2W/2 Esc. UR-R. Esc. Aux. GV-R. Crashed 9.9.52.	SG61	RM822	2	Ec.Ch.
SG15	RM685	402	2W/2 Esc. UR-B. Es.Ch.	SG62	RM913	610	1W/349.Esc.GE-P. 10th Wing 8S- Ec.Ch.IQ-
SG16	NH688	610	1W/- : 2/W- Ec.Ch.IQ-L. Crashed landed 3.7.50.	SG63	RN115	414	Ec.Ch. Towing Flt. GV-R. Crashed 31.7.51.
SG17	RM935	411	Ec.Ch.IQ-E.	SG64	TZ192	453	1W/349.GE-P. Ec.Ch.IQ-F. Crashed 23.10.52.
SG18	RM741	416	1W/350 Esc.MN-A. 2W/3 Esc. YL-T.	SG65	NH892	453	1W/350 Esc.MN-X. 2W/1 Esc.3R-C. Ec.Ch. Towing Flt. GV-X. Ec.Ch.IQ-M. Crashed 14.12.53.
SG19	RM906	402	2W/3 Esc. YL-M. Es.Ch.	SG66	RM705	41	1W/350 Esc.MN-V. Ec.Ch. IQ-Q. Crashed 24 or 31.3.53.
SG20	NH712	41	/1Esc. Crashed 16.1.48.	SG67	NH864	16	1W/350 Esc.MN-Y. 2W/3 Esc.YL-D. Crashed 28.3.51.
SG21	RM676	350	1W/- Crashed 16.3.48.	SG68	RB156	610	1W/349 Esc.GE-F. Crashed 14.5.52.
SG22	RM791	611	2W/- Ec.Ch.IQ-O.	SG69	RB182	91	Esc.Aux.GV-F. Ec.Ch.IQ-U. 2W/2 Esc.UR-C. Ec.Ch.IQ-A. 2W/- Crashed 30.8.49.
SG23	RM679	610	1W/- Ec.Ch.IQ-C.	SG70	RM683	402	2W/1 Esc.3R-A. 2W/2 Esc.UR-A. Crashed 14.8.51.
SG24	RM876		2W/2. Esc.UR-B. Ec.Ch. IQ-B. Crashed 27.12.50.	SG71	NH718	350	1W/349 Esc.GE-R. Ec.Ch. 1W/350 Esc.MN-N. Ec.Ch. 2W/- Crashed 25.2.53. Ec.Ch.IQ-T. Crashed 18.7.50.
SG25	RM927	2	2W/1. 3R-A. Ec.Ch. IQ-W. Preserved.	SG72	RM841		2W/2 Esc.UR-E. Esc.Aux.GV-E. Crashed 27.10.50. 2W/- Crashed 20.9.50. 1W/350 Esc.MN-T. Esc. Aux. GV-T and GV-S. Crashed 20.7.52.
SG26	NH643	268	Esc. Aux. GV-. Crashed 23.7.51	SG73	NH720	350	1W/350 Esc.MN-E. 2W/1 Esc.3R-O.
SG27	RB161	350	1W/350 Esc.MN-P. Ec.Ch.IQ-O. Crashed 31.7.52.	SG74	NH780	451	1W/349 Esc.GE-K.
SG28	RM787	130	1W/- Destroyed by fire 17.3.48.	SG75	NH797	451	1W/349 Esc.GE-C. 1W/350 Esc.MN-M. Ec.Ch.IQ-B. 2W/3 Esc.YL-G.
SG29	RN113	2		SG76	RM917	610	1W/350 Esc.MN-G. Ec.Ch.IQ-D. 1W/350 Esc.MN-L. 2W/3 Esc.3R-D.
SG30	MV288		Ec.Ch.IQ-K. Crashed 10.8.51.	SG77	MV263	443	
SG31	RN201	350	1W/350 Esc.MN-L. 2W/3 YL-B. Crashed 5.10.50. Now GE-A.	SG78	RM703	414	
SG32	RM759	41	1W/349 Esc.GE-M. 2W/3. YL-C.	SG79	TZ168		
SG33	TZ137	453	1W/350 Esc.MN-B. 2W/ Crashed 5.6.51.	SG80	MV382	350	
SG34	MV381	451	1W/349 Esc.GE-B. Es.Ch.	SG81	TZ127	453	
SG35	RM770	41	1W/350 Esc.MN-G. 2W/3 Esc.YL-F. Crashed 5.6.51.	SG82	RM937	414	
SG36	MV302	412	2W/- Ec.Ch. IQ-	SG83	RM820	430	
SG37	RM860	130	2W/- Ec.Ch. IQ-. Collided with SG46 14.1.49.	SG84	NH857	430	
SG38	RM794	350	1W/349 GE-A. Esc.Aux.GV-. Crashed 24.2.52.	SG85	TZ193	411	
SG39	MV256	412	1W/-	SG86	RM863	41	
SG40	RB186	350	2W/3 Esc. YL-S	SG87	NH807	16	
SG41	RM866	2	2W/ Crashed 30.4.48.	SG88	TX989	451	
SG42	RM697	350	1W/349.GE-D. Ec.Ch.IQ-Z. Crashed.	SG89	TZ111	453	
SG43	RM920	2	1W/350.MN-C.2W/1 Esc. 3R-J.2W/3 Esc.YL- Crashed 20.2.51.	SG90	MV369	16	
SG44	RM802	350	2W. Ec.Ch. IQ-U. Crashed 23.12.53.	SG91	NH775	453	
SG45	RN119	412	1W/350.MN- 2W/2 Esc.UR-Q. Ec.Ch.IQ-Q and IQ-W. Never had code UR-G nor t/drop hood.	SG92	RM938	2	
SG46	RM625	402	2W/2.UR-G. Collided with SG37 21.4.49.	SG93	NH863		
SG47	RN117	130	Ec.Ch.IQ-J. Crashed 9.8.51.	SG94	NH894		
SG48	TZ132	443	Ec.Ch.IQ-	SG95	MV383	430	
SG49	TX995	453	10th Wing de Chasse 8S- 2W/1 Esc.3R-A.	SG96	RN124	41	
SG50	MV378	412	10th Wing 8S-R. Ec.Ch.IQ-BB. 2W/2 Esc.UR-F. Crashed 5.6.49.	SG97	TZ154		
SG51	SM821		Ec.Ch.IQ-S.	SG98	NH831	16	
SG52	RM882	414	2W/1 3R-V. Crashed 16.3.51.	SG99	MV312	453	
SG53	RM857	430	2W/1 Esc.3R-O. Collided with SG53 30.6.49.	SG100	RM784		
SG54	RN215	130	Ec.Ch.IQ-K.	SG101	NH922	443	
SG55	MV246		1W/- Crashed 11.10.48. Rebuilt with parts of SG37 and SG46 for exhibition as SR111. GD-A. To Musée Royal de l'Armée. 25.2.51.	SG102	RN116	430	Ec.Ch.IQ-C.
SG56	NH754	451	1W/350 Esc.MN-W Ec.Ch.IQ-D. Crashed 5.6.50.	SG103		UX-R.	2W/Fac.B. Ec.Ch.IQ-N. Ec.Ch.IQ-R. Ec.Ch.IQ-V.B2-K. Ec.Ch.IQ-Y. Esc. Aux. GV-R. Ec.Ch.IQ-M. /3 Esc. YL-P. Ec.Ch.IQ-D. Ec.Ch.IQ-S. /3 Esc.YL- Ec.Ch.IQ-W. Ec.Ch.IQ-Z.
SG57	RM921	414	2W/1 Esc.RL-D. C.O.s aircraft. Maj. Avt. Raymond Lallemand. Now at Florennes.	SG104			
SG58	RM680	41	Ec.Ch.IQ-OD.	SG105			
SG59	RM710	350	1W/350 Esc.MN-V. 2W/1 Esc.3R-N. Crashed 6.4.51.	SG108	NH789		
				SG112			
				SG114			
				SG117			
				SG120			
				SG121			
				SG123			
				SG125			
				SG127			

Series Editor: CHARLES W. CAIN



Squadron badge on the nose identifies this Spitfire FR.Mk.XVIII TZ203; (individual letter "J") as belonging to No. 208 Squadron, RAF.
 (Photo: via R. C. Jones)



Two more views of Spitfire FR.Mk.XVIII's belonging to No. 32 Squadron, RAF, taken when the unit was at Nicosia, Cyprus, in late 1948, subsequent to Mandated Palestine becoming the State of Israel in that year. Bomb racks under the wings are in evidence.
 (Photo: via author's collection)





Royal Thai Air Force Spitfire Mk. XVIII. Between December 1950 and July 1951, a batch of 30 purchased from Vickers-Armstrongs was delivered to Thailand. (Photo: via author's collection)



A test Spitfire FR. Mk. XIV E (TZ138) which has spent well over 25 years on the North American continent is shown in two of its three roles: (above) in immaculate condition prior to departure for Canada and winterization trials of 1945-46, and (below) as Canadian civil-registered CF-GMZ entered for the Tinnerman Trophy, Cleveland (Ohio) Air Races in 1949. Currently, privately-owned by an American in Colorado and USA-registered N5505A, and ex-N20E. (Photos: Rolls-Royce (1971) Ltd. and Harold G. Martin)

